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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,891	11/18/2003	Roberto Marcus Cabrera-Llanos	206,336	9414

7590 06/08/2005

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New York, NY 10017

EXAMINER
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HUG, ERIC J

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/716,891	Applicant(s) CABRERA-LLANOS ET AL.	
	Examiner Eric Hug	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8 and 11-16 is/are rejected.
- 7) ☒ Claim(s) 5-7, 9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 2, 8, 13, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the exit passage". There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the exit passages". There is insufficient antecedent basis for this limitation in the claim.

Claims 13 and 14 recite the limitation "the second plurality of orifices". There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 11-13, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al (US 3,535,529).

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Love discloses a burner for a regenerative type glass melting furnace. The burner comprises a burner assembly 25 surrounded by a concentric water jacket assembly 24. There is an outer pipe (cylindrical member 26), and intermediate pipe (cylindrical member 27), and an inner pipe (elongated burner tube 35). Figure 1 shows cooling water entering at pipe 31 into chamber 30 which is located between cylindrical member 26 and cylindrical member 27. Air is introduced at air line 46 and flows between cylindrical member 27 and the outside of the burner tube 35. Fuel is provided to the interior of burner tube 35. The fuel and air components initially flow vertically, then change direction by 90 degrees (see column 3, lines 47-53). The flows of fuel and air are directed to an end nozzle where they are mixed and discharged into the furnace to combust the fuel and produce a flame. Fuel passes through nozzle 38 located at the end of burner tube 35. Annular recess 37 is located at the end of the nozzle.

The structural features of the burner of Love read on the structural features of claims 1-4 and 11-13. Regarding the use of pulverized coke as fuel, the inclusion of this material in the claims does not impart patentability to the claims, because the pulverized coke does not expressly or impliedly require any particular structure in addition to that of Love. Apparatus claims are not limited by the material worked upon. See MPEP 2115.

Claims 15 and 16 are unpatentable, because they recite features pertaining to the operation of the burner. A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim. See MPEP 2114.

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3. Claims 1, 2, 4, 13, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daman et al (US 4,391,581).

Daman discloses a fluid cooled burner for a regenerative type glass melting furnace. The burner comprises an elongated tubular structure having an angled tip portion for emitting fuel and combustion air which ignite and create flames directed into the glass melting tank. The tip is cooled by the flow of water therearound. Figure 4 shows an outer pipe (water cooled jacket 35), an intermediate pipe (outer concentric tube 36), and an inner pipe (central tube 33). Cooling fluid is introduced at 44 and flows in jacket 35 over outer tube 36. Air is introduced through annular space 38 between the central tube 33 and outer tube 36. Fuel is provided to the central tube 33. The flows of the fuel and air components are angled toward the furnace, where they are discharged together at the tip end for combustion.

The structural features of the burner of Daman read on the structural features of claims 1, 2, 4, and 13. Regarding the use of pulverized coke as fuel, the inclusion of this material in the claims does not impart patentability to the claims, because the pulverized coke does not expressly or impliedly require any particular structure in addition to that of Love. Apparatus claims are not limited by the material worked upon. See MPEP 2115.

Claims 15 and 16 are unpatentable, because they recite features pertaining to the operation of the burner. A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim. See MPEP 2114.

***Allowable Subject Matter***

Claims 5-7, 9, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8 and 14 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 5-7 are allowable for providing the claimed head, coupled cylindrical member, frusto-conical central orifice, and plurality of peripheral orifices.

Claim 8 would be allowable for separating the exit passages with an angle of 10-20° between each other.

Claims 9 and 10 are allowable for further providing the burner with a conical section having a uniformly reduced diameter.

Claim 14 would be allowable for providing orifices that provide a swirl effect to the flows of air/gas and fuel-air.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Castelain et al (US 5,147,438) discloses an angled burner.

Balestra (US 5,032,163) discloses a 90-degree bent burner.

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Tsai (US 4,671,765) discloses a bent burner with multiple nozzles.

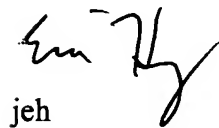
Miller et al (US 3,939,068) discloses a coal fired burner.

Paul et al (US 3,397,256) discloses a burner having concentric passages for fuel and air.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192. The examiner can normally be reached on Monday through Friday, 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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